

**Before the  
Federal Communications Commission  
Washington DC 20554**

In the Matter of	)	
	)	
Inquiry Concerning the Deployment of	)	
Advanced Telecommunications	)	
Capability to All Americans in a Reasonable	)	GN Docket No. 07-45
and Timely Fashion, and Possible Steps	)	
to Accelerate Such Deployment	)	
Pursuant to Section 706 of the	)	
Telecommunications Act of 1996	)	

**COMMENTS OF TROPOS NETWORKS**

Tropos Networks (Tropos) submits these Comments in response to the Commission's *Notice of Inquiry*<sup>1</sup> addressing Section 706 of the Telecommunications Act of 1996. Section 706 directs the Commission to examine and report "whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion."<sup>2</sup> Tropos urges the Commission to examine not only broadband availability but to scrutinize the lack of competition in the market. The Commission's information and analysis should center on whether a vibrant competitive environment exists and the path to promote it.

**Tropos Networks**

Tropos Networks, headquartered in Sunnyvale, California, provides wireless

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<sup>1</sup> Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, *Notice of Inquiry*, GN Docket No.07-45 (April 16, 2007)

<sup>2</sup> Section 706(b) of the Telecommunications Act of 1996, Pub. L. 104-104, 110 Stat. 56 (1996) (1996 Act), reproduced in the notes under 47 U.S.C. § 157.



Wi-Fi technology that delivers broadband access using unlicensed spectrum. In over 500 deployments, Tropos technology is providing wireless broadband over large geographic areas. Its MetroMesh architecture allows a network to be installed at substantial savings over legacy systems by eliminating costly backhaul and proprietary client devices. No large towers need to be constructed; no streets need to be excavated. The system's capacity is designed for advanced applications delivering voice and video. Portable wireless devices, now mass produced to operate in a Wi-Fi environment, also reduce cost and expand consumer choice.

With its partners, Tropos has emerged as a facilities-based broadband provider in a market that lacks connectivity and competition. Tropos is the technology provider to EarthLink in its Philadelphia and Anaheim projects, and in the Google/EarthLink San Francisco project. The fully deployed Corpus Christi, Texas network covers more than 100 square miles and reaches 90% of the city's 277,000 residents; it is the world's largest multipurpose mesh network.

The Lafayette Utilities System of Lafayette, Louisiana is deploying Tropos' system to enable utility workers to operate more efficiently, reduce costs and improve customer service for citywide electric, water, wastewater, telecommunications and other wholesale services. The city-owned and operated network will cover the city's entire 49 square miles. Initial use will enable utility workers to send and receive documents to field operations. These include work orders, building schematics, city maps and Geographic Information System (GIS) models that provide layouts of power and water routing, manholes, light poles and electric meters.



In Philadelphia, 15 square miles of what will be a 135 square miles system is now deployed. Deployment in Longmont, Colorado, covering 22 square miles, was completed in less than 90 days. The Alexandria, Virginia network will encompass 16 square miles of the city and provide affordable, high-speed Internet access for residents and visitors. Chaska, Minnesota's broadband system provides its residents speeds of 1 Mbps (symmetrical) at approximately \$17.00 per month.<sup>3</sup>

**The Commission's Information Request and Analysis Should Center on Competition**

The Commission's analysis of advanced services has generally addressed broadband provisioning by facility based providers. It notes that the availability of broadband has increased since commencement of the Section 706 reports. This *Notice of Inquiry* seeks information on whether access has expanded, variable broadband pricing and consumer usage. It invites comment on other information it should pursue and the analysis it should conduct, including evidence of anticompetitive conduct.

Tropos urges the Commission to center its analysis on whether a vibrant competitive environment exists, the reasons blocking it and the means to promote it. While information regarding broadband availability and whether there is pricing for different levels of capacity indicate some flexibility for the consumer, it is the number of providers competing and their price offerings that determines actual access. The *Notice of Inquiry's* direction reflects a current environment where consumers have at best two alternatives and high prices. It is high prices that are keeping more consumers from actual broadband use.

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<sup>3</sup> <http://www.chaska.net/>



Much of the Commission's information is from wireline providers with extensive networks and who advertise attractive promotional offerings. The circumstances invite scrutiny. The local exchange carrier in the District of Columbia offers broadband service, 3.0 Mbps/768 Kbps, at almost \$40.00 per month.<sup>4</sup> The District of Columbia cable provider's competitive offering is almost \$60 per month, asserting that it is up to 4 times faster than 1.5 Mbps DSL and up to 7 times faster than the LEC's 768 Kbps DSL service.<sup>5</sup>

Moreover, it is hardly a symbol of the market working when, as a condition to obtain approval of its merger, AT&T and Bell South agreed to specific broadband access mileposts. The merged entity agreed to provide speeds in excess of 200 kbps to customers in select service areas. In other service areas, it agreed to offer a trial-service, with speeds up to 768 Kbps, for as little as \$10 a month to those customers who had not previously subscribed to ADSL service. The commitment indicates why broadband is not accessed by more people- it is priced too high.

A Commission analysis of non promotional broadband offerings will provide insight into how competitive the market is and the barriers consumers face in purchasing access. The Commission should examine and compare other markets, particularly that of the Commercial Mobile Radio Service (CMRS). In CMRS, the expansion of consumer choice and competitive pricing emerged only when the market moved beyond two providers. Expanding competitors resulted in pervasive mobile phone use. The

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<sup>4</sup> Verizon's Month to Month Plan,  
<http://www22.verizon.com/content/consumerdsl/plans/all+plans/all+plans.htm?LOBCode=C&PromoTCod e=RD801&PromoSrcCode=L&POEId=TL1DS>

<sup>5</sup> Comcast services offering to non cable subscribers,  
<http://www.comcast.com/shop/buyflow/default.ashx?SourcePage=Internet>



Commission's analysis and promotion of competitive services and not just the availability of broadband should be the standard in its work addressing Section 706.

The Commission should also examine the extent of broadband and its costs in what can be characterized as broadband's submarket. Tropos provides its Wi-Fi mesh equipment to a number of sectors, public utility, government, including public safety and industrial interests for what are essentially internal networks. These networks transmit the range of data applications, large and small. This information will assist the Commission in evaluating broadband's accessibility. Examining the cost elements of these projects, which may need confidential/proprietary treatment, will provide insight to the broader competitive market and the path to more competition. If the Commission believes this information would assist its effort, Tropos commits to working with its partners and customers to provide such.

Broadband is more than subscribers. The Commission notes that an important attribute has emerged, broadband's ability to provide nomadicity-- the ability to carry a device and connect to a network. It is a forceful economic tool that benefits consumers and businesses to perform work easier and faster. A Commission analysis of costs and efficiencies and who benefits from nomadicity will assist in portraying the degree advanced services are benefiting Americans.

The Commission should solicit, through its Intergovernmental Advisory Committee, the motivating factors leading local governments to pursue broadband, the resistance encountered and the models that have emerged. Examining local government initiatives to rollout electricity and other utilities and comparing this history to broadband



will provide insight as to how the current environment can attract more competition and the barriers facing local government. The Commission should embrace these initiatives.<sup>6</sup>

The Commission inquires of broadband's availability to schools. Again, the degree of accessibility is only a preliminary inquiry. The substance that should be examined is what services schools need and what prices are they paying. The Commission's Universal Service dockets, including its Joint Board proceedings, provide substantial information and the opportunity to obtain insight.

Tropos believes that the Commission's work under Section 706 must move beyond measuring where broadband is available. It should analyze and compare

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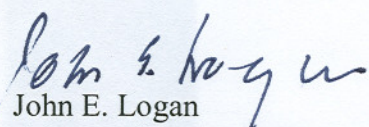
<sup>6</sup> The Federal Trade Commission, in a recent staff report, profiles the expanding number of municipal Wi-Fi deployments delivering The innovation permeating Wi-Fi technology, the growing investment committed, and the expanding number of deployments is demonstrating how technology can lower cost and bring broadband to all Americans, including those without access to broadband services in rural America. *Municipal Provision of Wireless Internet*, FTC Staff Report (September 2006) (<http://www.ftc.gov/ftc/news.htm>).



incumbent offerings where there is limited or no competition and where it has faced a new entrant. It should examine the circumstances where innovation has lowered costs, decreased prices and expanded services to the consumer. The Commission should direct its efforts to analyzing why consumers are facing prices that are too high and discerning the barriers that must be surmounted.

Respectfully submitted,

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